

Get fit with HIIT

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Credit: AI-generated image ([disclaimer](#))

Getting fit by exercising intensely for a few minutes a day, several times a week, might sound too good to be true if COVID-19 lockdown has left you with an expanded waistline.

And with the coming and going of [exercise](#) trends with catchy names and celebrity endorsements, it would be easy to dismiss high-intensity interval training (HIIT) as just another fad.

But it's far from it and could be your answer to getting back into shape in time for summer, Dr. Andrew Keech says.

The UNSW Medicine exercise physiology researcher, who has been studying the science of exercise for 20 years, said most sports followed an unstructured form of HIIT—for example, rugby league, basketball and tennis.

"Efforts are generally short and vigorous and then the athlete rests for a short period before another hard effort," Dr. Keech said.

"So, HIIT is a fancy way of saying, 'work hard for a while, recover and then do it all again.' This is what athletes have been doing for many years. But as a formal structured exercise program, it was probably Tabata training in the 1990s that brought HIIT into the mainstream worldwide."

Dr. Keech even uses HIIT himself as an achievable and efficient way to stay in shape while juggling other commitments.

"With two young children and an academic career to build, before the pandemic I had no time for long, slow jogs. For me, pounding the pavement is not overly enjoyable," he said.

"Instead, I use a large hill near our home which is an easy workout: I run uphill at about 90 percent maximum speed for about 20 seconds and then walk back down. I do this five times and that's it—the benefits show just from that. So, there is no need to 'smash yourself' with a huge workout that wipes you out for the rest of the day—like many personal training or boot-camp style workouts are nowadays—to gain meaningful benefits for your cardiovascular health."

Research proves benefits of HIIT

Dr. Keech said the benefits of HIIT had become clearer in recent years with accumulating research showing it was effective for improving aerobic fitness and cardiovascular-related health indicators, such as [blood pressure](#), body fat levels and glucose control.

"In my main area of expertise—cardiac benefits—it was a seminal study in 2007 by Ulrik Wisloff, a leading Norwegian exercise scientist, that applied HIIT successfully to cardiac rehab patients with an average age of 75 years that started the ball rolling in HIIT research," he said.

"The evidence is clear that HIIT is superior to traditional moderate-intensity continuous training (MICT) – for example, the long slow jog—for improving aerobic fitness. Having a high level of aerobic fitness is important for your health. Aerobic fitness is an index of how well a range of bodily systems are functioning and it's a strong, independent predictor of mortality risk, especially for cardiovascular disease which causes things like heart attacks."

Dr. Keech said HIIT also appears to offer long-term benefits for those who remained committed for months.

"We can infer from sustained longer-term improvement in aerobic fitness that HIIT likely induces more [heart muscle](#) and a larger chamber size, meaning more blood can be pumped out per beat. This is called left ventricular hypertrophy and is a longer-lasting change," he said.

"For many people, this is the most important change to strive for—a stronger, healthier heart is a big end goal. HIIT also offers other cardiovascular benefits. Multiple meta-analyses studies have shown HIIT is more effective than MICT for improving glucose control and insulin sensitivity, so it is especially good for lowering diabetic risk."

You don't need to be fit to start HIIT

Even if you rarely exercise, it's never too late to start doing HIIT, Dr. Keech said.

"When you get fitter, you lower your risk of early mortality and this is especially important for those who have not exercised much in their life—you can get great benefit from starting regular exercise," he said.

"For people who are generally healthy but otherwise sedentary, start conservatively with MICT and then gradually build HIIT into the program—either form of training will deliver improvements in [aerobic fitness](#) within the first few weeks. This is largely from increases in blood volume because having more blood in your body leads to more oxygen reaching your working muscles, but these benefits will be lost if you give up regular exercise."

Dr. Keech said people with chronic disease could also benefit from HIIT—as long as they had adequate supervision and guidance.

"HIIT has been applied in a wide range of chronic illness populations in the past few years—such as people who have survived stroke or have kidney disease, non-alcoholic fatty liver disease or cancer," he said.

"We use HIIT with cardiac rehab patients in Prince of Wales Hospital with strict safeguards—pre-training heart health screening with a cardiologist, regular checking of blood pressure and symptoms, strict adherence to the prescribed exercise program—and in this setting it has been shown to be relatively safe. We are now designing a study that will investigate the feasibility of HIIT in patients with severe liver disease at St George Hospital."

Watch your waistline—not your weight

Dr. Keech said one of his studies, a meta-analysis, showed HIIT and MICT both led to, on average, about two kilograms of fat loss after about 10 weeks of training, three times a week—without any dietary change.

"Fat loss through exercise is not accompanied by any great weight loss because you lose fat but can gain weight via other means. An increase in muscle mass occurs a little bit, but it also comes from blood volume increases," he said.

"This can increase your body weight by half a kilo or so—initially it's from water retention leading to plasma increases, then the kidneys detect this change and start the process to pump out more red blood cells."

Dr. Keech said people should therefore not rely on weight loss to evaluate the benefits of exercise, including HIIT.

"Waist circumference is likely a better index of exercise-induced fat loss, which is an under-appreciated point in the community," he said.

"Most of us just use body weight scales at home and see little change after many weeks or months of training. But those scales won't tell you if you have lost fat and put on muscle and blood weight. Gaining muscle and blood are excellent adaptations, while losing fat is also very important for improving health. So, achieving all three changes is great. But you won't know of this if you just look at your weight scales."

Give HIIT a go

Dr. Keech said the cardiac patients he worked with enjoyed a big

confidence boost from doing HIIT—knowing they could safely exert themselves after surviving a [heart attack](#)—so, it could help many other people keep fit, too.

"HIIT is not a passing fad—it is a genuine intervention with a range of advantages over MICT, including time-efficiency, enjoyment and the challenge of mastering a concentrated form of exercise," he said.

"If you design a HIIT program thoughtfully—for example, with shorter bursts or longer rest periods and build up gradually—you can limit the sense of discomfort or fatigue that many people find unappealing about exercise. Remember, the human body likes to work hard and while results from exercise vary across individuals, HIIT can encourage positive changes that improve health and ultimately, lower the risk of an early death."

Dr. Keech suggested people contact an accredited exercise physiologist if they wanted a program tailored to their needs and goals.

More information: Find an exercise professional near you:
www.essa.org.au/find-aep

Provided by University of New South Wales

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